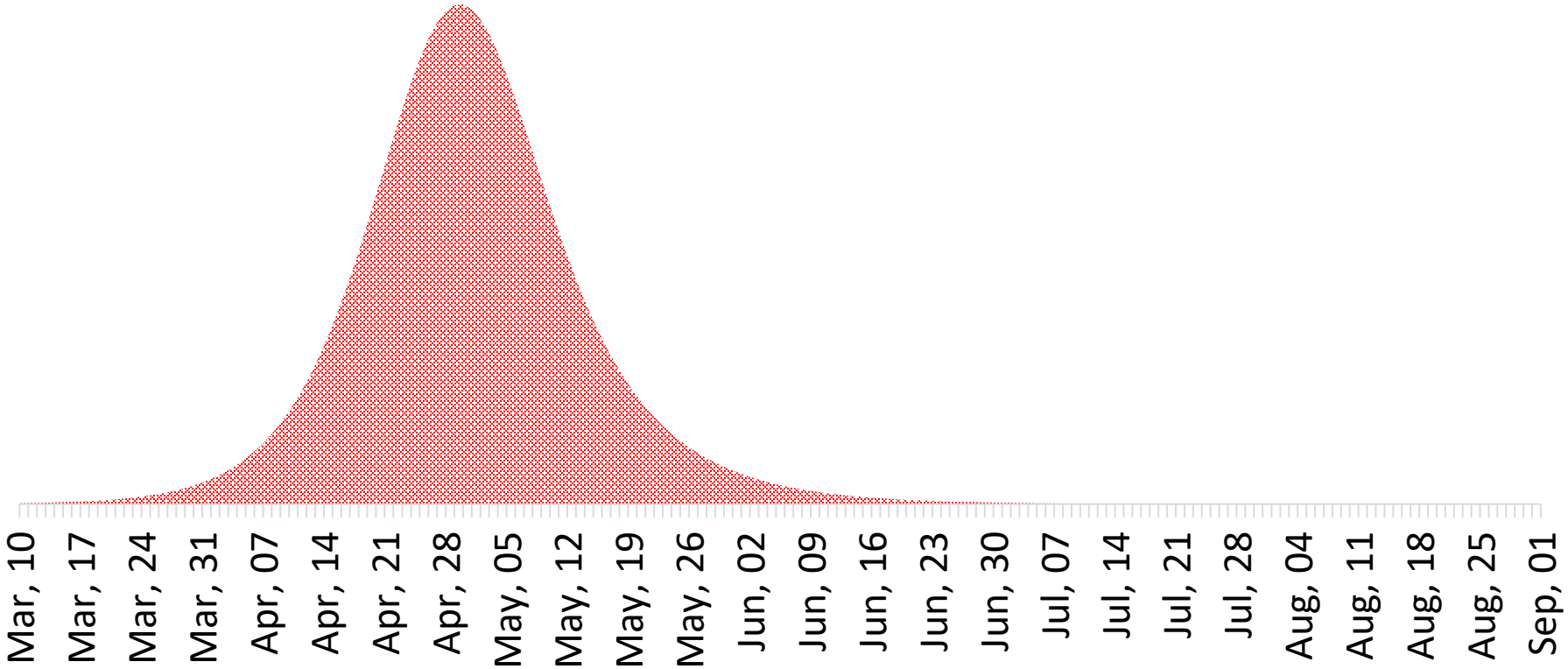
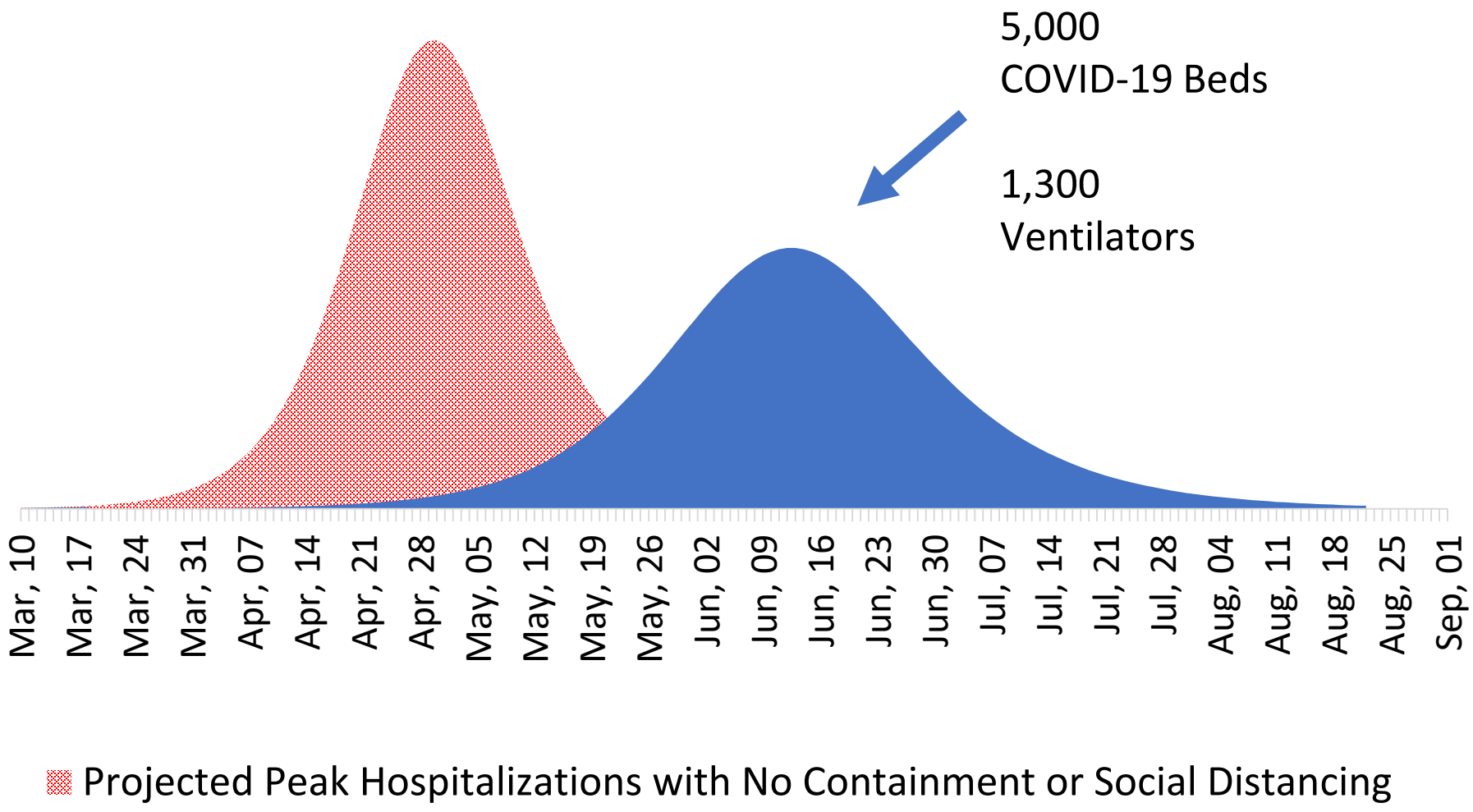
Key Dates

- January 2020: Department of Health began monitoring the situation and providing weekly situation updates to the Governor.
- January 22, 2020: Department of Health began regular internal planning meetings.
- January 27, 2020: Department of Health launched its COVID-19 website.
- February 10, 2020: Department of Health activated its internal Emergency Operations Center.
- March 7, 2020: Department of Health briefed members of the legislature regarding preparations.
- March 10, 2020: First positive cases in South Dakota announced.



Projected Peak Hospitalizations with No Containment or Social Distancing

April 12, 2020



April 12, 2020

Projections for South Dakota

	Impact Numbers	Assumptions
South Dakota Population	882,235	--
Peak*	Mid-June	Current containment and social distancing
Infections	265,000 – 600,000	30%-70% of population
Hospital Beds	5,000 needed at peak	5% of infections
Ventilators	1,300 needed at peak	26% of hospitalized

* Maintain Current Mitigation Measures Through August

April 12, 2020

Additional Details:

- This is a novel coronavirus never seen in the human population before so all of South Dakota's population is considered susceptible in our projections.
- Beta value, infection rate not accounting for reduction due to social distancing, was estimated using an R-naught of 2.3. Details: https://annals.org/aim/fullarticle/2760912/reporting-epidemic-growth-reproduction-numbers-2019-novel-coronavirus-2019-ncov
- Gamma value, recovery rate, was estimated using an infectious period of 7 days. This is informed by CDC's release from isolation guidance which considers someone non-infectious 7 days after their symptom onset (assuming they are afebrile for 72 hours and have a general improvement in symptoms). Details: https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html
- Uncertainty is anticipated in the model with increasing distance from present day, which is why the model has primarily been used to inform our bed capacity planning assumptions.
- Time series data can be calculated with the data provided.

Models Evaluated

Harvard Model

U-Washington Model

COVID Act Now

Penn Medicine Model

U-Columbia Model

Other Models